

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of: KUKULKA et al. : Confirmation No.: 8247  
Application No.: 10/614,310 : Group Art Unit: 1753  
Filed: July 7, 2003 : Examiner: Thanh Truc TRINH  
:  
:

For: SOLAR CELL STRUCTURE WITH SOLAR CELLS HAVING REVERSE-BIAS PROTECTION USING AN IMPLANTED CURRENT SHUNT

**PETITION**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Applicant petitions from the restriction requirement set forth in the Office Action of November 14, 2006, and made final in the Office Action of June 5, 2007.

The restriction is imposed for

Group I, article claims 1-7.

Group II, method claims 8-15.

Applicant timely traversed the restriction when requested to make an oral election on November 3, 2006, and elected the Group I claims as required (Office Action of November 14, 2006, page 3, lines 1-3).

Applicant responded in writing in the Amendment filed March 13, 2007, and did not cancel claims 8-15.

The restriction was made final in the Office Action of June 5, 2007.

Claim1, an article claim, which is an elected claim, recites:

"1. A solar cell structure comprising:

a solar cell comprising two semiconductor layers in facing contact with each other, wherein the semiconductor layers comprise a semiconductor junction producing a voltage between the two semiconductor layers when illuminated; and

a shunt comprising a channel of an altered material

extending between and at least partially through the two semiconductor layers, and

having an asymmetric current-voltage characteristic of passing a small current when voltage-biased in a forward direction parallel to the channel, and passing a large current when voltage-biased in a reverse direction parallel to the channel and opposite to the forward direction."

Independent method claim 8, which is the non-elected claim, recites:

"8. A method for fabricating a solar cell structure, comprising the steps of  
depositing a solar cell comprising two semiconductor layers in facing contact with  
each other, wherein the semiconductor layers comprise a semiconductor junction producing  
a voltage between the two semiconductor layers when illuminated;  
forming a shunt comprising a channel of an altered material  
extending between and at least partially through the two semiconductor  
layers, and  
having an asymmetric current-voltage characteristic of passing a small  
current when voltage-biased in a forward direction parallel to the channel, and passing a  
large current when voltage-biased in a reverse direction parallel to the channel and opposite  
to the forward direction."

The Examiner has not shown that the product can be made by a materially different process. As the Examiner has shown in the affirmance of the restriction and as the applicants have argued in their traversal, the product is only known to be made by deposition, as noted in claim 8 above.

The basis of the restriction is that "...the product as claimed can be made by different methods such as electroplating." (Office Action of November 14, 2006, page 2, lines 15-16.)

Applicant responded and explained in its written response in the Amendment filed March 13, 2007:

"Electroplating is within the scope of method claim 8, and therefore making the article by electroplating is not a "materially different process." Nothing in method claim 8 would eliminate electroplating as a method for producing the solar cell structure made by the process that is within the scope of claim 8."

The Examiner's response set forth on page 2, lines 6-9 of the Office Action of June 5, 2007, is a nonsequitur:

"This [Applicant's argument as set forth above] is not found persuasive because there is nothing in claim 8 mentioning about electroplating. The term 'depositing' can be CVD...or PVD...."

Yes, and the term "depositing" can also be electroplating. No specific method of depositing is recited in claim 8, and therefore "electrodepositing" is no more a "materially different process" than is CVD or PVD. All methods of depositing are within the scope of claim 8.

It was the Examiner's position underlying the restriction in the first place that "...the product as claimed can be made by different methods such as electroplating." Because no specific deposition technique is mentioned in claim 8, electroplating is a deposition technique within the scope of claim 8.

Recognizing the error, the Examiner sets forth a fallback position in the Office Action of June 5, 2007, at page 2, lines 10-13. The argument here is that the claims are related as process of making and product made, and that "The product, solar cells structure in this case, can be made by different processes such as electroplating or epitaxially growing layers of solar cells." This view suffers from the same problem. The method claim never recites any specific deposition technique, so both electroplating and epitaxially growing layers of solar cells are both within the scope of the depositing step of claim 8.

Article and method claims cannot be restricted simply because the Examiner can imagine that there are different detailed processing techniques. These different processing techniques must be recited in the method claim itself before there is any basis for the restriction.

Additionally, the restriction is based on 35 USC 121. The claims must be shown to be "independent and distinct" to maintain the restriction, 35 USC 121, 37 CFR 1.141. Since this requirement is statutory, it is not proper to interpret the statute in any other fashion. 35 USC 121 provides no basis for restriction on any other ground, such as search classifications or burden on the examiner. There is no attempt to show that the claims are independent. In this case, the claims are neither independent nor distinct.

Applicant asks that the restriction be withdrawn and that all of the claims be examined.

Respectfully submitted,

Dated: August 29, 2007

McNees Wallace & Nurick LLC

/Carmen Santa Maria/

---

Carmen Santa Maria  
Reg. No. 33,453  
100 Pine Street  
P.O. Box 1166  
Harrisburg, PA 17108-1166  
Attorney for Applicant

Phone: (717) 237-5226  
Fax: (717) 260-1738